

Silicon NPN Power Transistors

BUV48C

DESCRIPTION

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- With TO-3PN package.
- High voltage.
- Fast switching speed.

APPLICATIONS

- Linear and switching industrial equipment.

PINNING

PIN	DESCRIPTION
1	Base
2	Collector;connected to mounting base
3	Emitter

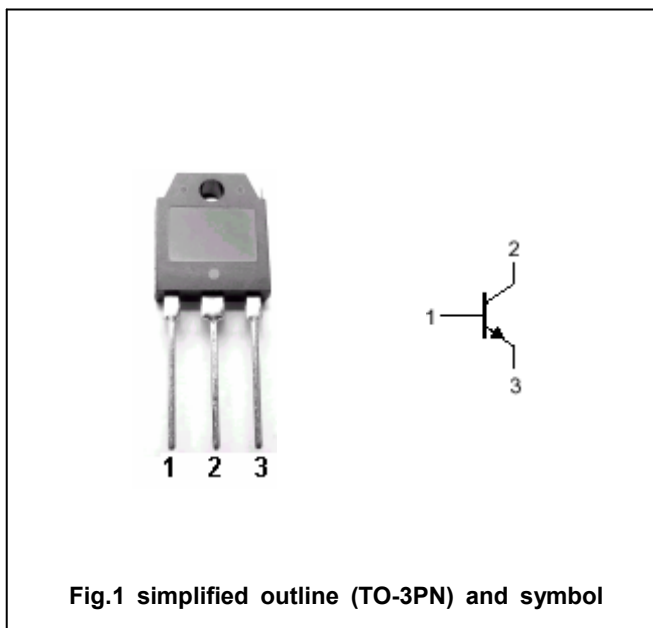


Fig.1 simplified outline (TO-3PN) and symbol

Absolute maximum ratings (Ta=25°C)

SYMBOL	PARAMETER	CONDITIONS	VALUE	UNIT
V <sub>CBO</sub>	Collector-base voltage	Open emitter	1200	V
V <sub>CEO</sub>	Collector-emitter voltage	Open base	700	V
V <sub>EBO</sub>	Emitter-base voltage	Open collector	7	V
I <sub>C</sub>	Collector current		15	A
I <sub>CM</sub>	Collector current -peak	t <sub>p</sub> <5ms	30	A
I <sub>B</sub>	Base current		4	A
I <sub>BM</sub>	Base current-peak	t <sub>p</sub> <5ms	20	A
P <sub>C</sub>	Collector power dissipation	T <sub>C</sub> =25°C	125	W
T <sub>j</sub>	Junction temperature		150	°C
T <sub>stg</sub>	Storage temperature		-65~150	°C

THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	MAX	UNIT
R <sub>th j-case</sub>	Thermal resistance junction case	1.0	°C/W

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## CHARACTERISTICS

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 $T_j=25^\circ\text{C}$  unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
$V_{CEO(SUS)}$	Emitter-base sustaining voltage	$I_C=100\text{mA}; I_B=0$	700			V
$V_{CEsat-1}$	Collector-emitter saturation voltage	$I_C=6\text{A}; I_B=1.5\text{A}$			1.5	V
$V_{CEsat-2}$	Collector-emitter saturation voltage	$I_C=10\text{A}; I_B=4\text{A}$			3	V
$V_{BEsat-1}$	Base-emitter saturation voltage	$I_C=6\text{A}; I_B=1.5\text{A}$			1.5	V
$V_{BEsat-2}$	Base-emitter saturation voltage	$I_C=10\text{A}; I_B=4\text{A}$			2	V
$I_{CES}$	Collector cut-off current	$V_{CE}=1200\text{V}; V_{BE}=0$ $T=125^\circ\text{C}$			0.5 3	mA
$I_{CEO}$	Collector cut-off current	$V_{CE}=700\text{V}; I_C=0$			1	mA
$I_{EBO}$	Emitter cut-off current	$V_{EB}=6\text{V}; I_C=0$			1	mA
$h_{FE}$	DC current gain	$I_C=1\text{A}; V_{CE}=5\text{V}$	15		50	

Switching times:

$t_{on}$	Turn-on time	$I_C=6\text{A}; I_{B1}=-I_{B2}=1.5\text{A}$ $V_{CC}=250\text{V}$		0.5	1.0	$\mu\text{s}$
$t_s$	Storage time			1.5	3.0	$\mu\text{s}$
$t_f$	Fall time			0.2	0.7	$\mu\text{s}$

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PACKAGE OUTLINE

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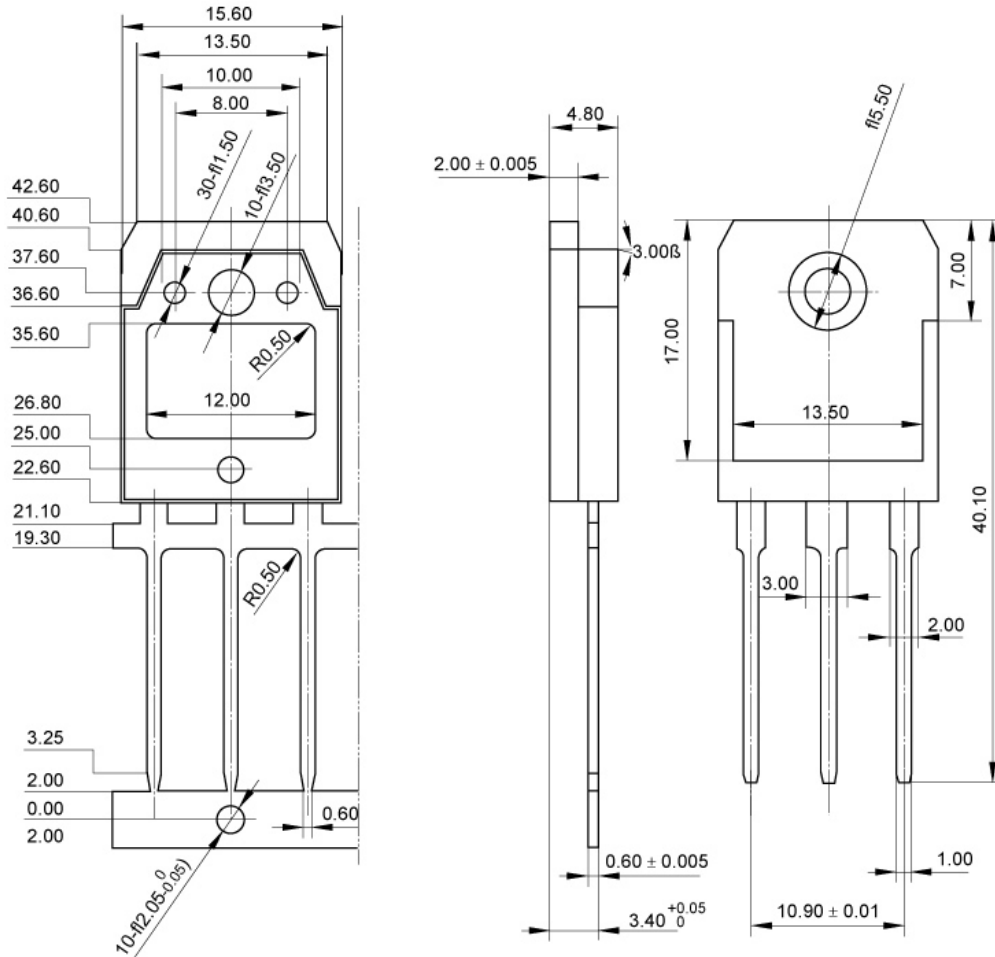


Fig.2 outline dimensions (unindicated tolerance:  $\pm 0.10$  mm)